

PATENT CLAIMS:

1 – 10 (canceled)

11. (new) A method for controlling an internal combustion engine having a camshaft, a crankshaft sensor, and a camshaft sensor, comprising:
- adapting a reference value for a phase of the camshaft in a predefined position of a setting mechanism when a predefined condition is satisfied;
 - determining a measurement value for the phase depending on a sensed crankshaft angle and a camshaft angle;
 - determining a corrected measurement value for the phase depending on the reference value and the measurement value for the phase; and
 - determining a control signal for controlling the internal combustion engine depending on the corrected measurement value.
12. (new) The method according to Claim 11, wherein the predefined condition is satisfied when a motor vehicle containing the internal combustion engine has traveled a predefined journey distance since the last adaptation and a set of predefined ambient conditions are present.
13. (new) The method according to Claim 11, wherein the set of ambient conditions are present when the temperature of the internal combustion engine lies within a predefined range.
14. (new) The method according to Claim 11 wherein the adaptation takes place near a time when the internal combustion engine starts up.
15. (new) The Method according to Claim 11, wherein the adaptation takes place depending on a variable that is characteristic of a load on the internal combustion engine.
16. (new) The method according to Claim 15, wherein the variable that is characteristic of the load on the internal combustion engine is the journey distance.

17. (new) The method according to Claim 15, wherein the variable that is characteristic of the load on the internal combustion engine is a variable that is characteristic of the full-load accelerations.

18. (new) The method according to Claim 15, wherein the variable that is characteristic of loads on the internal combustion engine is a variable that is characteristic of the uneven running state.

19. (new) The method according to Claim 15, wherein the variable that is characteristic of the load on the internal combustion engine is the period of operation of the internal combustion engine.

20. (new) The method according to Claim 11, wherein diagnostics are performed on the internal combustion engine depending on the adapted reference value or a value defining the adaptation.